**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
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| Inquiry Concerning the Deployment of | ) | GN Docket No. 16-245 |
| Advanced Telecommunications Capability | ) | |
| to All Americans in a Reasonable and | ) | |
| Timely Fashion, and Possible Steps to | ) | |
| Accelerate Such Deployment Pursuant to | ) | |
| Section 706 of the Telecommunications | ) | |
| Act of 1996, as Amended by the | ) | |
| Broadband Data Improvement Act | ) | |

# COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION

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## EXECUTIVE SUMMARY

Mobile broadband has fundamentally altered and dramatically expanded the ways in which Americans can use mobile communications services in everyday life. Recognizing the importance that mobile broadband now plays in Americans' ability to communicate for work, education, healthcare, entertainment, travel, and a host of other activities, the Federal Communications Commission's ("FCC" or "Commission") *2016 Broadband Progress Report* correctly concluded that access to advanced telecommunications capability requires access to mobile broadband service.[1] The *Twelfth Broadband Progress Notice of Inquiry* on the deployment of advanced telecommunications capability builds on that important milestone, and provides an opportunity for the Commission to improve its understanding of broadband deployment and adoption, and what policy options the Commission should pursue to fulfill its statutory mission to encourage "the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans."[2]

To make progress toward that goal, the Commission first must ensure that its definition of "advanced telecommunications capability" remains anchored to the practical realities of how mobile and fixed broadband services are used, how mobile networks are deployed, and how these differ from the uses and deployment of fixed broadband. Second, the Commission also must be armed with accurate data that reflects the real-world availability and performance of mobile broadband service; the Commission cannot continue to rely on self-reported, incomplete

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1 *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, 2016 Broadband Progress Report, 31 FCC Rcd. 699, 710 ¶ 24 (2016) ("*2016 Broadband Progress Report*").

2 47 U.S.C. § 1302(a).

and inaccurate data that overstates the extent of mobile broadband deployment, especially in rural areas. Third, the Commission must complete long-outstanding proceedings and initiate long-overdue reforms, to implement policies that encourage investment, innovation, and competition in mobile broadband. Together, these reforms will help deliver the benefits of advanced telecommunications capability to all Americans.

Competitive Carriers Association ("CCA") urges the Commission to continue to be mindful of the different uses for mobile and fixed broadband services, as well as the technological and economic factors that distinguish mobile and fixed broadband networks, in deciding whether and how to set specific benchmarks for speed, latency, and service consistency. When it issued the *2016 Broadband Progress Report*, the Commission concluded that it lacked sufficient data to set specific speed and consistency benchmarks.[3] Given the different uses of—and unique challenges facing—mobile broadband service, particularly in rural areas, CCA recommends that the Commission decline to adopt specific benchmarks at this time, reviewing the record for guidance. If the Commission were to adopt such benchmarks, they should differ from the benchmarks used for fixed broadband service.

CCA also highlights the Commission's assertion that the data used for assessing the deployment of mobile broadband service in the *2016 Broadband Progress Report* are flawed. CCA therefore recommends the Commission employ multiple sources that more accurately reflect real-world conditions impacting the availability of mobile broadband service. These include both commercially available databases as well as data gathered from drive-testing tools conducted by the Commission, third parties, or through crowd-sourcing.

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[3] *See 2016 Broadband Progress Report* ¶¶ 58, 66, 70.

Finally, CCA submits that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely fashion, and urges the Commission to adopt specific reforms to spur broadband deployment, particularly in currently underserved rural areas. Even where broadband deployment has brought advanced telecommunications capability to an area, the majority of Americans—including more than 87 percent of Americans living in rural areas—have, at most, only one choice of provider for fixed broadband service (including 39 percent with zero providers).[4] For mobile broadband, the market is likewise highly concentrated with AT&T and Verizon together commanding nearly three-quarters of the market by service revenue.[5] To help unlock mobile broadband competition, the Commission should adopt specific reforms that promote investment in mobile broadband facilities. Specifically, the Commission should:

- reform Universal Service Fund contribution rules to provide equitable and sufficient support for mobile broadband;
- fix the broken Business Data Services market to enable competitive providers to obtain necessary backhaul capacity on just and reasonable terms and conditions;
- expand fair access to licensed and unlicensed spectrum, including low-band spectrum;
- establish new data roaming rules under the Title II framework for fixed and mobile broadband services;
- adopt a flexible framework for customer privacy and data security instead of a burdensome regulatory regime that would force wireless providers, especially

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4 *See id.* ¶ 6.

5 *Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services*, Eighteenth Report, 30 FCC Rcd. 14,515, 14,528 ¶ 21 (2015) ("*Eighteenth Mobile Competition Report*"). As of the end of the second quarter of 2016, AT&T and Verizon together maintained approximately 275 million subscribers; the next five largest mobile broadband providers *combined* had less than *half* that number in subscribers. *See* Mike Dano, *How Verizon, AT&T, T-Mobile, Sprint and more stacked up in Q2, 2016: The top 7 carriers*, FIERCEWIRELESS (Aug. 15, 2016), http://www.fiercewireless.com/wireless/how-verizon-at-t-t-mobile-sprint-and-more-stacked-up-q2-2016-top-7-carriers.

regional and rural providers, to divert scarce resources toward compliance with the new rules and away from continued network deployment; and

- enact clear infrastructure policies to ensure carriers have adequate tools to deploy the physical resources necessary to support mobile broadband networks.

## Table of Contents

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| | | |
|---|---|---|
| In the Matter of | ) | |
| | ) | |
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## COMMENTS OF COMPETITIVE CARRIERS ASSOCIATION

Competitive Carriers Association ("CCA") submits these comments in response to the *Twelfth Broadband Progress Notice of Inquiry* ("*Notice*") in the above-captioned proceeding.[6] The Federal Communications Commission ("FCC" or "Commission") *Notice* seeks comments on its annual determination required by Section 706 of the Telecommunications Act of 1996 as to "whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion."[7] In particular, the Commission seeks comment on (1) whether the Commission should adopt specific benchmark thresholds for the speed and consistency of mobile broadband service,[8] (2) the data sources that the Commission should use to inform its

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6 *See Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, Twelfth Broadband Progress Notice of Inquiry, FCC 16-100, GN Docket No. 16-245 (rel. Aug. 4, 2016) ("*Notice*").

7 *See id.* ¶ 1 (quoting 47 U.S.C. § 1302(b)).

8 *Id.* ¶¶ 38-48.

analysis,[9] and (3) other considerations that the Commission should take into account when making its determination under Section 706.[10]

## I. INTRODUCTION.

CCA is the nation's leading association for competitive wireless providers and stakeholders across the United States. CCA's membership includes nearly 100 competitive wireless providers ranging from small, rural carriers serving fewer than 5,000 subscribers to regional and national providers serving millions of customers. CCA also represents approximately 200 associate members consisting of small businesses, vendors, and suppliers that serve carriers of all sizes. CCA's members work tirelessly to deploy mobile wireless services and advanced mobile broadband service across the nation, including unserved and underserved areas. CCA and its members support the Commission's goal of expanding to all Americans access to advanced telecommunications capability, including both fixed and mobile broadband services.[11]

CCA applauds the Commission's *2016 Broadband Progress Report*, which concludes that "advanced telecommunications capability should be deemed deployed only in areas where consumers have access to both [fixed and mobile] services."[12] In reaching this conclusion, the Commission correctly recognizes the unique and complementary roles that fixed and mobile broadband services play in providing consumers access to the full set of benefits made possible

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9 *Id.* ¶ 62.

10 *Id.* ¶ 85.

11 As the Commission recognized in the *Eighteenth Mobile Competition Report*, "non-nationwide [mobile] service providers are important sources of competition in rural areas, enhancing competitive choices for consumers in the mobile wireless marketplace, and helping promote deployment." *Eighteenth Mobile Competition Report* ¶ 10.

12 *2016 Broadband Progress Report* ¶ 24.

by advanced telecommunications capabilities.[13] Today, mobile broadband service is widely used by consumers and businesses not just to exchange messages, but also for fixed and mobile access to opportunities in employment, education, healthcare, agriculture, commerce, and banking, to name a few.[14] The transition to 5G network technology will make possible even more innovative applications and functions, which will be provided through smartphones and tablets, as well as a wider universe of devices ranging from smart homes and self-driving cars, to wearable electronics that "do everything from monitor vital signs, fitness or sun exposure to play music, charge other electronics or even purify the air around you — all wirelessly."[15] CCA also commends the Commission for its recent adoption of rules for spectrum in bands above 24 GHz,[16] which represents an important step in unleashing spectrum resources that will enable next-generation technologies and services.

At the same time, Section 706 charges the Commission with the duty to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to *all* Americans."[17] In the *2016 Broadband Progress Report*, the Commission acknowledged that

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13 *See id.* ¶ 30 (noting that mobile broadband services not only "empower Americans to access the web and web-based applications while on the go," but also "harness the unique capabilities of mobile devices . . . [to] pinpoint a user's location" and thus "give directions, recommend nearby businesses," and provide other services).

14 *See* Comments of Competitive Carriers Association, at 5-6 & nn.16-24, GN Docket No. 15-191 (filed Sept. 15, 2015) ("CCA Eleventh NOI Comments").

15 *See* Renee Miller, *Fast, stretchy circuits could yield new wave of wearable electronics*, UNIVERSITY OF WISCONSIN-MADISON (May 27, 2016), http://news.wisc.edu/fast-stretchy-circuits-could-yield-new-wave-of-wearable-electronics/.

16 *See Use of Spectrum Bands Above 24 GHz For Mobile Radio Service et al.*, Report and Order and Further Notice of Proposed Rulemaking, FCC 16-89, GN Docket No. 14-177, IB Docket Nos. 15-256, 97-95, WT Docket No. 10-112, RM-11664 (rel. July 14, 2016) ("*Spectrum Frontiers Order*").

17 47 U.S.C. § 1302(a) (emphasis added).

while progress continues to be made, "there is still more work to do," including work necessary to close the gap between urban and rural communities in the availability of advanced telecommunications capability.[18] In these comments, CCA recommends the Commission establish benchmarks for the deployment of advanced telecommunications capability with the goal of promoting broadband network investment and competition, including accounting for the differences between fixed and mobile broadband in setting service performance benchmarks to determine whether mobile broadband offers access to advanced telecommunications capability. CCA also encourages the Commission to expand its data sources for evaluating the deployment of advanced telecommunications capability. Specifically, the FCC should include data that reflect the coverage and performance of mobile broadband networks under real-world conditions. Finally, CCA urges the Commission to find that advanced telecommunications capability is not being deployed in a reasonable and timely fashion to all Americans, and recommends a number of specific policy proposals to promote broadband competition and the transition to next generation technology.

## II. THE COMMISSION SHOULD BASE ITS DETERMINATIONS ON DATA SOURCES THAT REFLECT REAL-WORLD CONDITIONS AND SERVICE PERFORMANCE.

The *Notice* seeks comments on the sources of data the Commission should use to inform its findings about the deployment of mobile broadband service.[19] It is critically important for the Commission to use accurate data that measure real-world availability of mobile coverage and service, and not rely solely on information reported in FCC Form 477, which, as the Commission

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18 *2016 Broadband Progress Report* ¶ 4 (observing that "more than 39 percent of Americans living in rural areas lack[] access to advanced telecommunications capability, as compared to 4 percent of Americans living in urban areas").

19 *See Notice* ¶ 62.

recognizes, can "understate[] or overstate[]" the availability of service.[20] Similarly, the Commission's methodology for determining the availability of service in a given census block based on the reported availability of service in the geographic center of the census block also "may overstate the deployment of services throughout an area."[21] As various parties have observed, this "centroid" method overstates the availability of service especially in rural areas, where census blocks are much larger than census blocks in urban areas.[22] Likewise, the Commission should be skeptical of exaggerated claims of ubiquitous 4G LTE coverage, which are based on calculations that are unsupported by the realities of actual service availability.[23]

To ensure that it can make its determinations based on the best available information, the Commission should use multiple sources of data that measure the actual availability of mobile broadband service. Using multiple sources, including commercially available sources such as Mosaik, Nielsen, and Ookla, will enable the Commission to compare data and detect biases. For example, the Commission applied data from Mosaik in the *Eighteenth Mobile Competition Report*, and acknowledged that Mosaik's data shows only the number of providers with network coverage in an area, as opposed to whether the providers are offering service, and that "[c]overage calculations . . . have certain limitations that likely result in an overstatement of the

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20 *2016 Broadband Progress Report* ¶ 75 n. 234.

21 *Id.*

22 *See, e.g.*, Letter from Caressa D. Bennet, General Counsel, Rural Wireless Association, to Marlene H. Dortch, Secretary, FCC, at 7, WT Docket No. 10-208, WC Docket No. 10-90 (filed Aug. 23, 2016); Letter from David LaFuria, Counsel for U.S. Cellular, to Marlene H. Dortch, Secretary, FCC, at 8, WT Docket No. 10-208 (filed Feb. 25, 2016) ("Coverage at a centroid point incorrectly assumes both coverage and speed threshold are met throughout the Census Block. Coverage data appears to depict homogenous speeds that do not accurately capture wide variances in throughput speed between cell tower and cell edge.").

23 *See* Reply Comments of Competitive Carriers Association at 5-6, WT Docket No. 16-137 (filed June 15, 2016) ("CCA Mobile Competition Reply Comments").

extent of mobile coverage."[24] Thus, using data from multiple sources is essential because no single source is likely to provide all data necessary for the Commission to make its determination.[25] In addition to commercially available data sets, the Commission also should gather data through drive-testing and crowd-sourcing,[26] which can be used to corroborate and verify its other data sources.[27]

## III. THE COMMISSION SHOULD ADOPT BENCHMARKS THAT ACCURATELY REFLECT DIFFERENCES IN THE ADVANCED TELECOMMUNICATIONS CAPABILITY PROVIDED BY FIXED AND MOBILE BROADBAND.

The Commission must establish the metrics to measure the current state of advanced telecommunications capability, and to fulfill its statutory mission of promoting further deployment. In the *Notice*, the Commission seeks comment on the appropriate metrics that the Commission should evaluate, including specific benchmarks for speed (and related metrics) and for consistency, as well as more general, non-benchmark consideration for consumer privacy and

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24 *Eighteenth Mobile Competition Report* ¶ 41, Chart III.A.5.

25 *See, e.g., Special Access for Price Cap Local Exchange Carriers; AT&T Corp. Petition for Rulemaking to Reform Regulation of Incumbent Local Exchange Carrier Rates for Interstate Special Access Services*, Order and Further Notice of Proposed Rulemaking, WC Docket No. 05- 25, RM-10593, 27 FCC Rcd 16318, 16360, App. A. (2012) ("Data Collection Order or Data Collection FNPRM").

26 *See Notice* ¶ 70; Comments of Root Wireless, Inc., at 10-11, CG Docket No. 09-158, CC Docket No. 98-170, WC Docket No. 04-36 (filed July 8, 2010) (noting that crowd-sourced network performing data can be combined with drive-testing data, and that drive-testing may "be used to collect data in sparsely populated areas or in areas where, due to the randomness on which crowdsourcing relies, data may happen to be thin").

27 *See* Letter from Sens. Wicker (R-MS), Manchin (D-WV), Baldwin (D-WY), Blunt (R-MO), Burr (R- NC), Capito (R-WV) Daines (R-MT), Ernst (R-IA), Fischer (R-NE), Gardner (R-CO), Heitkamp (D-ND), Johnson (R-WI), King (I-ME), Klobuchar, (D-MN), McCaskill (D-MO), Moran (R-KS), Peters (D-MI), Roberts (R-KS), Rubio (R-FL), Tillis (R-FL), Vitter (R-LA), Warner (D-VA), Wyden (D- OR), Cochran (R-MS), Boozman (R-AR), Kirk (R-IL), U.S. Senate, to The Hon. Tom Wheeler, Chairman, Federal Communications Commission (July 11, 2016), *available at* http://www.wicker.senate.gov/public/index.cfm/press-releases?ID=31B66AB0-57A7-4937-90BE-A5A31B6CF516 ("Senate Mobility Fund II Letter").

security.[28] Establishing appropriate metrics will enable the Commission to develop an accurate report on the extent of deployment of advanced telecommunications capability that is currently available through both fixed broadband and mobile broadband services. Further, refined metrics will help the Commission better understand which policy levers to pull to promote further deployment and competition. Specifically, in setting benchmarks for the speed, consistency, and other performance aspects of broadband services, the Commission should be mindful of the differences in uses and network configurations between mobile and fixed broadband networks.

The Commission should not establish specific thresholds for speed, latency, and consistency of service as benchmarks for measuring whether a mobile broadband service provides access to advanced telecommunications capability to subscribers. Although the Commission has determined that a specific benchmark for speed is appropriate for determining whether *fixed* broadband service offers access to advanced telecommunications capability, the Commission also recognizes that "mobile broadband currently addresses different consumer needs and provides different capabilities than fixed broadband."[29] As the Commission found in the *2016 Broadband Progress Report*, there are "significant differences in the ways that most consumers use fixed and mobile broadband."[30] Specifically, more consumers use fixed broadband compared to mobile broadband to "view high definition video for larger screens and download and share large files," whereas mobile broadband enables consumers to "get directions, recommendations" and to use on-demand transportation services that are all based on

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28 *See Notice* ¶ 4.

29 *Id.* ¶ 39.

30 *2016 Broadband Progress Report* ¶ 31.

the user's location, and offers access to health-related services that track a user's movement.[31] The different uses for fixed and mobile broadband are reflected in the amount of data used by consumers with each service: the Commission notes that fixed broadband users in North America "use an average of 57.4 GB of data per month per household," while other reports highlight that U.S. consumers use only 1.9 GB of mobile data per month per user.[32] While these stats are rapidly changing with more and more consumers relying on mobile only for internet access, the differences remain.

The Commission also recognizes that fixed and mobile broadband networks are different, and that mobile broadband delivery faces unique technical challenges that are not present for fixed broadband. The Commission's *2016 Broadband Progress Report* explains that "mobile broadband encounters greater degrading effects [compared to fixed broadband] from factors such as congestion, interference, and challenges presented by physical velocity of a mobile antenna."[33] Mobile broadband networks also differ from fixed broadband networks because they are not built on legacy infrastructure of existing telephone and cable television networks. As a result, mobile providers face particularly high costs to deploy in less densely populated rural areas. Specifically, many mobile broadband providers – particularly those serving rural communities - are in the process of upgrading their networks to enable 4G LTE speeds. The Commission's and other statistics highlight the reality that economic challenges to wireless

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31 *Id.* ¶¶ 35, 37 (quoting Reply Comments of T-Mobile USA, Inc. at 3, GN Docket No. 15-191 (filed Sept. 30, 2015); Maeve Duggan, *Cell phone activities 2013*, PEW RESEARCH CENTER (Sept. 19, 2013), http://www.pewinternet.org/2013/09/19/cell-phone-activities-2013/).

32 *Id.* ¶ 37.

33 *Id.* ¶ 61.

network buildouts in rural areas remain,[34] and the Commission should account for the disparity between urban and rural areas when establishing fixed and mobile benchmarks. Thus, although both fixed and mobile broadband services offer consumers access to advanced telecommunications capability, the services are provided over different networks with different features that also enable consumers to use that capability in very different ways. Accordingly, applying the same performance benchmarks to both types of broadband service would fail to accurately represent the deployment of advanced telecommunications capability available through mobile broadband services.

Recognizing differences between fixed and mobile broadband, the Commission should decline to adopt specific benchmarks for determining whether mobile broadband service offers access to advanced telecommunications capability. If it were to adopt such benchmarks, the thresholds for mobile broadband should be lower than those for fixed broadband in recognition of the differences in network configuration and use. CCA recommends this approach to benchmarks for speed, latency, and consistency of service. With respect to speed, in particular,

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[34] *See, e.g.*, Letter from David LaFuria, Counsel for United States Cellular Corporation, to Marlene H. Dortch, Secretary, FCC, WT Docket No. 10-208, WC Docket No. 10-90 (filed May 31, 2016) (describing the high costs of maintaining networks in rural areas); Letter from Erin Fitzgerald, Assistant Regulatory Counsel, Rural Wireless Association, to Marlene H. Dortch, Secretary, FCC, at 1, WT Docket No. 10-208, WC Docket No. 10-90 (filed Aug. 26, 2015) ("There is a need for ongoing support for expanding and sustaining 4G LTE mobile services in high-cost areas where there is no business case for deployment by unsubsidized carriers."). The Commission's *2016 Broadband Progress Report* found that approximately 53 percent of Americans, including 87 percent of Americans in rural areas, lack access to any mobile broadband providers offering advertised speeds of 10 Mbps/1 Mbps. *2016 Broadband Report* ¶ 83 & tbl. 4. Meanwhile, the *Eighteenth Mobile Competition Report* concludes that while 96 percent of the population living in non-rural areas had mobile wireless network coverage provided by four providers, only 63 percent of the rural population was covered. *Eighteenth Mobile Competition Report* ¶ 40. The FCC's data is inconsistent and flawed. The Commission should adopt a better way to collect and report data.

if the Commission insists on imposing a benchmark as more carriers begin to deploy next generation technologies, the FCC should establish a benchmark no higher than 10 Mbps/1 Mbps for mobile broadband, which would encourage innovation and investment in network deployment; however, CCA emphasizes that it would not be appropriate at this time to conclude that only mobile broadband speeds exceeding 10 Mbps/1 Mbps offer access to advanced telecommunications capability. Nevertheless, the mobile industry is rapidly deploying new infrastructure and with the help of other policy reforms, including Universal Service Fund ("USF") and Business Data Services ("BDS") reforms, carriers of all sizes are improving their services. CCA encourages the FCC to review the record to establish the appropriate speed, latency, and consistency of service benchmarks. At a minimum, the FCC should set separate and lower benchmarks for mobile broadband than those used for fixed broadband.[35]

## IV. THE COMMISSION SHOULD FIND THAT ADVANCED TELECOMMUNICATIONS CAPABILITY IS NOT BEING DEPLOYED TO ALL AMERICANS ON A REASONABLE AND TIMELY BASIS, AND IMPLEMENT REFORMS TO PROMOTE UBIQUITOUS DEPLOYMENT.

Pursuant to Section 706 of the Telecommunications Act, the Commission should find that advanced telecommunications capability is not being deployed to all Americans in a reasonable and timely manner. As CCA and others have explained, a significant percentage of the United States population still lacks access to these services.[36] The availability gap persists even as

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35 *See id.*

36 *See* Reply Comments of Competitive Carriers Association at 7, WC Docket Nos. 10-90, 14-58, and 07-135, WT Docket No. 10-208, CC Docket No. 01-92 (filed Sep. 8, 2014) ("For example, a recent report has demonstrated that right outside of D.C., in nearby Loudon County, Virginia, only one quarter of the western portion of the county is covered by even one wireless carrier" (citing Michael Neibauer, *Where the Wireless Isn't: Western Loudon's Coverage Gaps Detailed, and What to do About Them*, WASHINGTON BUS. J. (Sept. 3, 2014), http://www.bizjournals.com/washington/blog/2014/09/where-the-wireless-isnt-westernloudouns-coverage.html?ana=wtop)); Comments of the Rural Wireless Carriers at

mobile broadband, and the advanced telecommunications capability it enables, becomes increasingly important in the lives of Americans.[37] For many people, mobile has become the exclusive means of accessing the Internet. As an example, the Pew Foundation recently found that the number of adults that rely exclusively on smartphones has increased to 13 percent of the population in 2015, up from only 8 percent in 2013.[38] To fulfill its statutory duty to "encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans,"[39] the Commission should take immediate action "to accelerate deployment of such capability by removing barriers to infrastructure investment and by promoting competition in the telecommunications market."[40]

11-15, WC Docket Nos. 10-90, 14-58, and 07-135, WT Docket No. 10-208, CC Docket No. 01-92 (filed Aug. 8, 2014); *see also* Comments of Deere & Company at i, GN Docket No. 15-191 (filed Sept. 15, 2015) (noting that "[t]here are a number of broadband use markets, such as agricultural operations, that are simply overlooked by the Commission's current broadband deployment policies").

37 *See Notice* ¶ 3; *2016 Broadband Progress Report* ¶¶ 20-44.

38 *See* John B. Horrigan & Maeve Duggan, *Home Broadband 2015*, PEW RESEARCH CENTER, (Dec. 21, 2015), http://www.pewinternet.org/2015/12/21/home-broadband-2015/. The proportion of "mobile-only" Americans are even higher among lower income households, with 23 percent of families with below median incomes and 33 percent of those below the poverty line relying exclusively on mobile-only access. *See* Victoria Rideout and Vikki S. Katz, *Opportunity for all? Technology and learning in lower-income families*, THE JOAN GANZ COONEY CENTER AT SESAME WORKSHOP, at 5 (2016), http://digitalequityforlearning.org/wp-content/uploads/2015/12/jgcc_opportunityforall.pdf.

39 47 U.S.C. § 1302(a).

40 *Id.* § 1302(b).

### A. The Commission Should Increase Access to Universal Service Fund Resources for Mobile Broadband Providers, Which Will Promote Competition and Expand Advanced Broadband Networks to High-Cost, Rural Areas.

Consistent with its prior advocacy, CCA urges the Commission to make sufficient USF resources available to mobile broadband providers.[41] USF support is critical to promoting mobile broadband competition, broadening service offerings, and maintaining networks that were built with legacy USF support, especially in rural and high-cost areas.[42]

First, as the Commission pursues USF reforms, it should ensure that wireless competitive eligible telecommunications carriers who deployed mobile broadband networks with legacy support mechanisms continue to have access to that support in the future.[43] Further reducing wireless support without, (1) affording wireless providers an opportunity to access funds through a Mobility Fund II mechanism and (2) expanding the USF contribution base, is inconsistent with the universal service principles of Section 254—including the directive that the Commission provide "specific, predictable and sufficient" support.[44] Second, Mobility Fund II should be implemented in a manner that reflects the full extent to which large portions of the country still

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41 *See* CCA Eleventh NOI Comments at 14; Comments of Competitive Carriers Association at 3-4, WC Docket Nos. 10-90, 14-58, and 07-135, WT Docket No. 10-208, CC Docket No. 01-92 (filed Aug. 8, 2014) ("CCA Mobility Fund Phase II FNPRM Comments").

42 *Connect America Fund et al.*, Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd. 17,663, 17,771 ¶ 295 (2011) (recognizing that "[m]obile voice and mobile broadband services are increasingly important to consumers and to our nation's economy" and that "[g]iven the important benefits of and the strong consumer demand for mobile services, ubiquitous mobile coverage must be a national priority.").

43 *See* Letter from Steven K. Berry, President & CEO, CCA, to Tom Wheeler, Chairman, FCC, at 3-4, WC Docket No. 10-90, WT Docket No. 10-208 (filed Apr. 15, 2014).

44 47 U.S.C. § 254(b)(5). *See also* Consolidated Appropriations Act 2016, H.R. 2029, 114th Cong. § 631 (2015).

lack access to mobile services.[45] The Commission also should afford mobile providers sufficient flexibility to implement their networks in the most efficient and effective manner.[46]

Fourth, effective USF reform demands that the Commission address not only the manner in which support is distributed, but the manner in which the funds used to provide that support are collected.[47] As CCA has explained, the contribution burden on wireless carriers continues to increase,[48] exacerbating the imbalance between wireless subscribers' contributions to the USF as compared to the level of funding received for wireless buildout.[49] Accordingly, the Commission should act to protect consumers by expanding the USF contribution base. This reform would: (i) reduce the USF contribution factor and the contribution burden placed on individual consumers, and (ii) yield funds that could be used to provide much-needed support critical to the advancement of the Commission's universal service objectives (e.g., through an expanded Mobility Fund).[50]

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45 Mignon Clyburn, Commissioner, FCC, Prepared Remarks at the Rural Wireless Association Summit at 4 (Sept. 10, 2015), http://transition.fcc.gov/Daily_Releases/Daily_Business/2015/db0915/DOC-335266A1.pdf ("We need to create a dedicated mobility fund, and ensure that all areas of our nation, have service. It is time to ensure that funding directly to mobile providers, extracts the most value for each dollar of universal service spent, and it is time for consumers in unserved areas, to have service that most of us take for granted.").

46 *See* CCA Mobility Fund Phase II FNPRM Comments at 17-18.

47 *See id.* at 24-25.

48 *See* Comments of Competitive Carriers Association at 29, WT Docket No. 16-137 (filed May 31, 2016) ("CCA Mobile Competition Comments").

49 *See id.*; CCA Mobile Competition Reply Comments at 18-19.

50 *See* CCA Mobility Fund Phase II FNPRM Comments at 25.

### B. Unless the Commission Implements Policies that Lead to Meaningful Price Reductions for Business Data Services, the Lack of Access to Critical Backhaul Capacity Will Harm Wireless Network Deployment, Service Quality, and Innovation.

Wireless networks rely on the availability of robust, high-capacity backhaul service to carry data to and from the cell sites that connect end users' mobile devices to the rest of the network and to the Internet.[51] As providers upgrade their wireless networks to 5G technology, and as consumer demand for data increases, higher bandwidth backhaul is critical to the availability of mobile broadband for advanced telecommunications capability.[52] However, as the exhaustive record compiled in the Commission's *Business Data Services* proceeding demonstrates, wireless providers face a broken market for backhaul service in which a handful of incumbent providers with market power impose supracompetitive rates that impede mobile broadband deployment, innovation, and competition.[53] As Chairman Wheeler recently stated,

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51 *See Business Data Services in an Internet Protocol Environment, et al.*, Tariff Investigation Order and Further Notice of Proposed Rulemaking, 31 FCC Rcd. 4723, 4725-26 ¶ 5 (2016) ("*BDS FNPRM*").

52 *See id.* ("[B]ackhaul, a form of [business data services] used by wireless carriers, is critical to the ability of wireless carriers to expand and operate their networks today and will be even more critical as the advent of 5G wireless drives the creation of the dense thicket of cell sites that will be needed to deliver high bandwidth wireless services."); *id.* ¶ 78 (citing Cisco forecast of a *6-fold increase* from 2015 to 2020 in U.S. mobile data demand).

53 *See* Reply Comments of Competitive Carriers Association, WC Docket Nos. 16-143, 15-247, and 05-25, RM-10593, at 11-16 (filed Aug. 9, 2016) ("CCA BDS Reply Comments"); Raul Katz, *Assessment of the Impact of the Broadband Data Services Market Dynamics on Innovation and Competition in the U.S. Wireless Market*, TELECOM ADVISORY SERVICES, LLC, (July 2016), attached as Exhibit 1 to CCA BDS Reply Comments ("Katz Study"); *see also* Reply Comments of Sprint Corporation at 50, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593 (filed Aug. 9, 2016) ("[T]he risk of excessive process for backhaul circuits delaying the deployment of 5G is real."); Comments of the Computer & Communications Industry Association at 4, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593 (filed June 28, 2016) ("Carriers will need to utilize more backhaul to connect additional antennae and towers to their networks."); Comments of INCOMPAS at 2-3, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593

"[l]ack of competition doesn't just hurt the deployment of wireless networks today, it threatens as well to delay the buildout of 5G networks with its demand for many, many more backhaul connections to many, many more antennae."[54] Accordingly, CCA urges the Commission to expeditiously resolve this long-standing proceeding.

The record in the *Business Data Services* proceeding demonstrates that there is insufficient competition in BDS markets to constrain prices that market leaders—typically the incumbent local exchange carrier ("ILEC")—charge for wireless backhaul service. This lack of competition is evident for low capacity BDS (*e.g.*, 50 or 100 Mbps and under) and high capacity BDS (*e.g.*, above 50 or 100 Mbps).[55] The record in that proceeding shows that market

(filed June 28, 2016) ("[A]ccess to Business Data Services at 100 Mbps and above at reasonable prices is vital for wireless providers to meet the current demand for wireless broadband services and to build next generation mobile broadband networks."); Comments of the Rural Wireless Association, Inc. at 3, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593 (filed June 28, 2016) ("If the U.S. is to become the world leader in 5G, the Commission must act to address the problematic BDS market."); Comments of Public Knowledge, Open Technology Institute at New America, Common Cause, Next Century Cities, Engine, and Schools, Health & Libraries Broadband Coalition at 3, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593 (filed June 28, 2016) (Without access to just and reasonably priced wireless backhaul, "5G deployments—and the economic and social benefits these investments promise to deliver to American consumers, anchor institutions, and businesses—will suffer the types of delays and scale reductions that could cost the United States its lead in technological capacity, job creation, and economic growth.").

54 Tom Wheeler, Chairman, FCC, Prepared Remarks at the National Press Club: "The Future of Wireless: A Vision for U.S. Leadership in a 5G World" at 6 (June 20, 2016), https://apps.fcc.gov/edocs_public/attachmatch/DOC-339920A1.pdf.

55 CCA has advocated that the Commission treat services at and below 50 Mbps as low capacity BDS, and services above 50 Mbps as high capacity BDS. However, others have proposed that the Commission draw the capacity threshold at 100 Mbps. *See* Comments of Windstream Services, LLC on the Further Notice of Proposed Rulemaking at 32-34, WC Docket Nos. 16-143, 05-25, RM-10593 (filed June 28, 2016); Comments of Birch, EarthLink, and Level 3 at 7-9, WC Docket Nos. 16-143, 15-247, 05-25, RM-10593 (filed June 28, 2016). CCA supports either approach, both of which are supported by the record in the *Business Data Services* proceeding.

concentration is extremely high for low capacity services,[56] and that areas with only one or two providers have higher BDS rates than areas with multiple providers.[57] The record also reveals that competition for high capacity BDS is uneven, at best.[58]

Not surprisingly, the lack of competition in the wireless backhaul market has hampered the deployment of mobile broadband and the advanced telecommunications capability it enables. As further explained in the analysis performed by expert telecommunications economist Dr. Raul Katz, high backhaul costs divert resources away from capital investments in network deployment. Dr. Katz estimates that a 30 percent savings in backhaul, driven by a 60 percent decrease in BDS prices "would yield an increase in CAPEX of 6.81%."[59] Dr. Katz also concludes that, without rate reform, the increased backhaul needs of competitive carriers will further "aggravate[] the economic condition of competitive wireless players," which will

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56 *See BDS FNPRM* ¶ 220.

57 The Commission's analysis, based on the analysis of economist Dr. Marc Rysman, revealed that "competition is lacking in BDS at or below 50 Mbps in many circumstances." *BDS FNPRM* ¶ 271. According to Dr. Rysman's regressions, "competitive supply in a unique location is correlated in both statistically and economically significant ways with lower [incumbent local exchange carriers ("ILECs" or "incumbent LECS")] prices for DS1s and DS3s at that location." *BDS FNPRM* ¶ 238. Additional regression analyses performed by Professor Jonathan Baker confirm these results. *See* Declaration of Jonathan B. Baker on Market Power in the Provision of Dedicated (Special Access) Services ¶¶ 63-64, WC Docket No. 05-25, RM-10593 (filed Jan. 27, 2016; revised public version submitted Apr. 14, 2016).

58 *See* CCA BDS Reply Comments at 7-9. Regression analyses performed by Dr. Baker and by Dr. John Kwoka for Sprint find clear evidence of market power for high capacity BDS. *See* Declaration of John Kwoka ¶ 27, attached as Exhibit A to Comments of Sprint Corporation, WC Docket Nos. 16-143, 05-25, RM-10593 (filed June 28, 2016). Dr. Baker's regression analysis likewise shows results suggesting that the "ILECs exercise market power at bandwidths above the 45 Mbps threshold used by Dr. Rysman" or "the 50 Mbps benchmark put forward by the FCC." Declaration of Jonathan B. Baker on Competition and Market Power in the Provision of Business Data Services ¶ 21, WC Docket Nos. 16-143, 15-247, & 05-25, RM-10593 (filed June 28, 2016; revised public version submitted July 14, 2016).

59 Katz Study at 6 and 25, Section 2.2.

"reinforc[e] a trend toward industry concentration" due to service degradation and loss of customers.[60]

Moreover, lack of competition in the BDS market threatens to impede competitive carriers from 5G migration. 5G technology will enable wireless throughput 10 to 100 times faster than 4G, meaning real-world speeds of about 4 Gbps.[61] This increase arises from the carriers' need to add more wireless channels, use millimeter wave technology, install small cells, and increase capacity in wired backhaul locations.[62] As Dr. Katz observes, "5G will lead to a dramatic increase in cell sites. . . and demand for backhaul."[63] Unless wireless providers can obtain backhaul sufficient to keep up with the increased data demand and wireless capacity, overburdened cells will result in an increase of blocked and dropped calls as well as latency, which ultimately leads to increased user churn.[64] Supracompetitive backhaul rates will prevent competitive wireless providers from obtaining sufficient backhaul capacity to keep up with demand, and thereby severely limit competitive carriers' ability to migrate to 5G. At a minimum, competitive carriers will be delayed in their ability to deploy next generation technology if they do not have sufficient backhaul.[65] Rural areas, which are served by fewer

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60 *Id.* at 43, Section 5.

61 *Id.* at 32, Section 4.1.

62 *Id.*

63 *Id.*

64 *Id.* at 30, Section 3.3.

65 Supracompetitive BDS prices will further exacerbate the negative economic consequences many competitive carriers will suffer as late entrants in the 5G provider marketplace, and amplify the "first mover" advantage that AT&T and Verizon enjoy, to the detriment of sustained mobile broadband competition. Dr. Katz has found, "an increase of 1 millisecond in latency increases churn by 0.00144 percentage points." *See* CCA BDS Reply Comments at 14-15.

carriers than urban areas, will suffer even greater negative impacts than the rest of the country if competitive carriers are unable to serve these markets.[66]

CCA urges the Commission to adopt the pricing reforms proposed in the *Business Data Services* proceeding, including specifically the proposal made jointly by Verizon and INCOMPAS.[67] For business data services provided using TDM-based special access, the Commission should impose a one-time rate reduction to account for the failure to update the productivity factor for the past decade,[68] and then reduce the rate on an annual basis based on an ongoing X-factor. CCA also supports an annual rate adjustment going forward to account for the fact that the telecommunications sector continues to be more productive than the economy as a whole.

For packet-based BDS, which will be increasingly important as demand for bandwidth increases with 5G migration, CCA also supports establishing benchmark rates for Ethernet services in non-competitive markets.[69] The proposed framework also supports a streamlined

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66 *See id.* at 15-16 (describing wide disparities in mobile broadband competition for states with large rural areas, such as Kentucky, New Hampshire, Oregon, Vermont, and West Virginia).

67 *See id.*; Letter from Kathleen Grillo, Senior Vice President, Public Policy and Government Affairs, Verizon and Chip Pickering, Chief Executive Officer, INCOMPAS, to Marlene H. Dortch, Secretary, FCC, at 1-3, WC Dockets No. 16-143 and 05-25, RM-10593 (filed Aug. 9, 2016) ("August 2016 Verizon-INCOMPAS Letter").

68 *See* CCA BDS Reply Comments at 23.

69 *See* August 2016 Verizon-INCOMPAS Letter at 2. The benchmark rate for the lowest bandwidth Ethernet service equal to or higher than a DS1 special access service would be the DS1 rate (after making the one-time adjustment described above). The benchmarks for each higher speed tier of Ethernet service would be based on the relationship between the market leader's rate for their lowest speed Ethernet Service and each higher speed tier. The benchmarks would subsequently be reduced by 4.4 percent annually, minus inflation.

dispute resolution process "that reflects which parties possess necessary information to resolve complaints related to compliance with the benchmarks."[70]

### C. The Commission Should Continue to Prioritize Access to Critical Spectrum Resources and Consider New Ways to Put Additional Spectrum into the Pipeline.

CCA commends the Commission's recent efforts to make additional licensed and unlicensed spectrum available to help meet current and future demand. As the Commission has recognized, "spectrum is a critical input in the provision of mobile wireless services and affects if and when existing service providers and potential entrants will be able to expand capacity or deploy networks."[71] With increased data demand, a balance of low-band spectrum, which provides superior coverage and in-building penetration, and high-band spectrum, which provides the increased throughput for mobile broadband applications, is essential for mobile broadband providers to expand and upgrade their networks to deliver advanced telecommunications capability.[72] The Commission should continue to take additional steps to promote efficient spectrum usage.

First, the Commission should carefully scrutinize proposed secondary market transactions that would further wireless industry consolidation by giving teeth to its enhanced factor standards of review. Spectrum below 1-GHz is critical for rural and in-building coverage, and after the completion of the 600 MHz incentive auction, there is no near-term prospect for additional low-band spectrum to be made commercially available outside of the secondary market. Despite this, and as in previous years, the Commission's *Eighteenth Mobile Competition*

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70 *Id.*

71 *Eighteenth Mobile Competition Report* ¶ 47.

72 *See id.* ¶ 48.

*Report* cites the steady increase in the Herfindahl-Hirschman Index ("HHI") from 3,027 in 2013 to 3,138 in 2014, as empirical evidence of ongoing industry consolidation.[73] CCA therefore continues to urge the FCC to give teeth to its enhanced factor standards of review, especially for transactions among and between AT&T and Verizon. If appropriately and consistently applied, these standards would prevent ongoing consolidation that stunts deployment of advanced telecommunications, harms competition, and frustrates consumers.[74]

Second, the Commission should adopt the proposal put forth by T-Mobile US for a regional approach to repacking following the incentive auction, which would schedule the clearing of less populated markets simultaneously with more populated markets.[75] Focusing too heavily on highly populated markets will lead to inefficient and unfair repacking. Instead, the Commission should focus the transition plan on each region as a whole, so as to disentangle interconnected "daisy-chained" broadcast operations and clear an entire region together and more quickly for both small and large carriers.[76] This approach also will foster appropriate

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73 *See id.* ¶ 24.

74 *See* CCA Mobile Competition Comments at 8-12.

75 *See* Letter from Trey Hanbury, Counsel to T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed May 11, 2016); *see also* Letter from Steve Sharkey, Vice President, Government Affairs, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed Feb. 17, 2016); *Broadcaster Repacking Proposal*, T-Mobile USA, Inc. (Mar. 2016), attached to Letter from Trey Hanbury, Counsel to T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed Mar. 4, 2016); *Broadcaster Repacking Proposal*, T-Mobile USA, Inc. (Mar. 1, 2016), attached to Letter from Trey Hanbury, Counsel to T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed Mar. 3, 2016).

76 *See* Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed Feb. 10, 2016); *see also* Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268, WT Docket No. 12-269, AU Docket No. 14-252, MB Docket No. 15-146 (filed Mar. 22, 2016); Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, GN

allocation of resources, allowing maximum resources to be available to repack particularly challenging markets as regions are cleared.

Similarly, the Commission should ensure that the post-auction transition is expeditious within the allotted 39-month timeframe. Competitive carriers must be able to complete network buildouts and put the new spectrum to use as soon as possible to meet increased consumer demand for upgraded service, particularly since these providers have to make significant capital floats to participate successfully in the auction.[77]

Third, the Commission should continue to make additional commercial spectrum available by exercising its authority to promote competition and prevent aggregation for high millimeter wave bands used in the transition to 5G. CCA commends the Commission for its adoption of the *Spectrum Frontiers Order*, and continues to encourage the Commission to address meaningful spectrum aggregation limits and to retain local multipoint distribution service ("LMDS") incumbent geographic license areas to better promote competition and prevent stranded investment. CCA continues to object to Verizon's proposed acquisition of XO's LMDS and 39 GHz spectrum; in particular, Verizon's confirmation that it will use these high frequency bands to conduct 5G testing further illustrates the importance of Commission action to prevent continued spectrum consolidation, especially in-band consolidation that will occur if not sufficiently regulated.[78]

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Docket No. 12-268 (filed Apr. 14, 2016); Letter from CCA Non-Nationwide Carrier CEOs to Marlene H. Dortch, Secretary, FCC, GN Docket No. 12-268 (filed May 5, 2015).

77 *See* CCA Mobile Competition Comments at 12-13.

78 *See* Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, at 2, GN Docket No. 14-177, IB Docket Nos. 15-256 & 97-95, RM-11664, WT Docket No. 10-112, WC Docket No. 16-70 (filed June 15, 2016); Comments of Competitive Carriers Association at 5, ULS File No. 0007162285 (filed May 3, 2016).

In addition to promoting availability of commercial spectrum, the Commission should explore unlicensed spectrum resources, such as LTE-U and LAA, as a means to facilitate expeditious deployment of next generation technologies. CCA supports exploring novel pathways to new spectrum and welcomes the development of these unlicensed technologies.[79] When attempting to promote faster and ubiquitous deployment of advanced telecommunications capability, the Commission should seize the opportunity to offer a flexible environment for industry stakeholders to develop LTE-U/LAA resources.[80] Specifically, competitive carriers are in need of more spectrum to effectively compete in the marketplace and satisfy consumers' insatiable demand for faster speeds and service. Exhausting all spectrum resources, including unlicensed technologies like LTE-U/LAA, will create additional opportunities for wireless carriers to gain more spectral capacity and the fast, reliable LTE service consumers have come to expect, while still being a good neighbor to other unlicensed operations like Wi-Fi. The Commission should afford flexibility to providers and manufacturers alike, while promoting a market for devices to ensure all carriers have competitive opportunities to access these technologies.

Finally, the Commission must enact policies that encourage access to devices and interoperability across spectrum bands, where appropriate. As CCA has previously advocated, the continued growth of mobile broadband demand and innovation in mobile devices mean that competitive providers are placed at a significant disadvantage when manufacturers do not

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79 *See* Comments of Competitive Carriers Association, ET Docket No. 15-105 (filed June 11, 2016); *see also* Reply Comments of Competitive Carriers Association, ET Docket No. 15-105 (filed June 26, 2015).

80 *See Ex Parte* Letter from Steve B. Sharkey, Vice President, Government Affairs, Technology and Engineering Policy, T-Mobile USA, Inc., to Marlene H. Dortch, Secretary, FCC, ET Docket No. 15-105 (filed July 28, 2016).

provide equal access to, and interoperability of, their wireless devices. The consolidation of device manufacturers further places competitive stakeholders at a disadvantage, and curtails deployment of advanced telecommunications capability and equipment.[81] Accordingly, the Commission must continue to curb anticompetitive practices that hinder competitive carriers' access to critical devices.

### D. The Commission Should Fulfill Its Promise to Reform Its Data Roaming Rules in the Wake of the Court of Appeals' Ruling Sustaining the Reclassification of Fixed and Mobile Broadband as Title II Services.

As spectrum consolidation and user demand for data both increase, competitive carriers increasingly require data roaming partnerships to build out their networks and compete effectively with the duopoly of AT&T and Verizon.[82] CCA ardently supports ensuring that all carriers have access to just, reasonable and nondiscriminatory data roaming agreements, particularly with the two dominant nationwide carriers, AT&T and Verizon. As T-Mobile US aptly summarized in its comments on the state of mobile broadband competition, "[d]ata roaming is crucial to promoting competition and providing consumers with ubiquitous mobile broadband services."[83] The Commission has reaffirmed that "[t]he availability of roaming capabilities is and will continue to be a critical component enabling consumers to have a competitive choice of facilities-based providers offering nationwide access to mobile data services."[84] However, despite the significance of roaming arrangements, AT&T and Verizon continue to exploit their

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81 *See id.*

82 *See* CCA Mobile Competition Reply Comments at 22.

83 Comments of T-Mobile USA, Inc. at 24, WT Docket No. 16-137 (filed May 31, 2016) ("T-Mobile Comments").

84 *Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers and Other Providers of Mobile Data Service*, Declaratory Ruling, 29 FCC Rcd. 15,483, 15,487-88 ¶ 13 (2014).

market dominance to establish unreasonable roaming rates, which diminishes competitive carriers' ability to provide consumers with quality service and dilutes competition in the market.[85]

It is past time for the Commission to initiate reforms of its data roaming rules, as it promised to do in the landmark *2015 Open Internet Order*.[86] The Commission's existing data roaming obligations were implemented prior to the reclassification of mobile broadband Internet access service ("BIAS") as a commercial mobile radio service ("CMRS") subject to the common carrier regulations under the Communications Act of 1934.[87] When the Commission issued the *2015 Open Internet Order*, it temporarily forbore from application of the CMRS roaming rule to mobile BIAS providers, conditioned on such providers continuing to be subject to the obligations, process, and remedies under the current data roaming rule.[88]

At the same time, the Commission committed to "commence in the near term a separate proceeding to revisit the data roaming obligations of [mobile] BIAS providers" in light of the reclassification of mobile BIAS as a telecommunications service.[89] Now that the Court of Appeals has upheld the reclassification of mobile BIAS as CMRS and thus a telecommunications

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85 *See* T-Mobile Comments at 24. Indeed, more than a third of participants in NTCA's Survey agreed that negotiating and implementing roaming agreements "remains a major area of concern" and a barrier to competitive arrangements. Comments of NTCA–The Rural Broadband Association at 4, WT Docket No. 16-137 (filed May 31, 2016).

86 *See Protecting and Promoting the Open Internet*, Report and Order on Remand, Declaratory Ruling, and Order, 30 FCC Rcd. 5601, 5857 ¶¶ 523, 525 (2015) ("*2015 Open Internet Order*").

87 *See* Letter from Rebecca Murphy Thompson, EVP & General Counsel, CCA, to Marlene H. Dortch, Secretary, FCC, at 1-2, GN Docket No. 14-28, WT Docket No. 05-265 (filed July 20, 2016).

88 *See 2015 Open Internet Order* ¶ 526.

89 *Id.* ¶¶ 523, 525.

service subject to Title II,[90] the Commission should revisit its requirements for this critically important barrier to competition. Specifically, the Commission should ensure that competitive carriers, particularly smaller and rural carriers, who build and deploy their own wireless networks in unserved and underserved areas can provide nationwide roaming to their customers at rates that enable competition with dominant nationwide carriers.[91]

### E. The Commission Should Refrain from Adopting a New Regulatory Regime for Privacy and Data Security that Provides Few Consumer Benefits and Would Divert Scarce Resources from Competitive Network Deployment.

In the *Notice*, the Commission also seeks comment on "additional performance metrics beyond speed, latency, and consistency of service" that are relevant to its determination of whether advanced telecommunications capability is being timely deployed,[92] and recognizes in the particular that "privacy and security . . . can affect the quality and reliability of broadband services."[93] Although these issues are certainly important to advanced telecommunications deployment and use, CCA urges the Commission to refrain from adopting its proposed rules on privacy and data security.[94] The proposals as outlined in the *Privacy NPRM* would not provide meaningful improvement to the "quality and reliability" of consumers' broadband experience, and instead impose significant burdens on competitive providers while diverting scarce resources away from network deployment. Discouraging network deployment would undermine competition and other measures of deployment of advanced telecommunications capability, such

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90 *See United States Telecom Ass'n v. FCC*, 825 F.3d 674 (D.C. Cir. 2016).

91 *See* CCA Eleventh NOI Comments at 17-18.

92 *See Notice* ¶ 10 n.24.

93 *Id.* ¶ 55 (quoting *2015 Broadband Progress Report* ¶ 105).

94 *Protecting the Privacy of Customers of Broadband and Other Telecommunications Services, Notice of Proposed Rulemaking*, Docket No. 16-106, FCC 16-39 (rel. Apr. 1, 2016) ("Privacy NPRM").

as price, used by the Commission.[95] If the Commission does move forward with its privacy proposals, or substantially similar rules, the Commission should incorporate an expansive small provider exemption.

The Commission's hawkish approach to privacy seems to contradict its recent progress adopting rules and regulations designed to lay the foundations for next generation networks, and widespread use of the Internet of Things ("IoT").[96] IoT and next generation networks present unique, unprecedented data security and consumer protection issues, yet the Commission's proposed privacy regime focuses on record-keeping and implementing arbitrary compliance programs that do not consider the needs and capabilities of individual providers.[97] Therefore, the FCC fails to strike an appropriate balance between protecting consumers and ensuring a competitive playing field for Internet service providers hoping to put this technology to

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95 Jack Karsten & Darrell M. West, *FCC Chairman Tom Wheeler Promises "Pedal to the Metal" on Broadband Access and Competition*, BROOKINGS (June 26, 2015), http://www.brookings.edu/blogs/techtank/posts/2015/06/26-fcc-chairman-wheeler-broadband-competition. The presence—or absence—of robust competitive choice directly affects many of the other metrics being considered by the Commission, including "pricing, data allowances, [and] adoption." *Notice* ¶ 10 n.24.

96 *See, e.g.*, *Spectrum Frontiers Order*; *Wireless Telecommunications Bureau Announces Execution of First Amendment to the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*, Public Notice, DA 16-900 (rel. Aug. 8, 2016); *BDS FNPRM.*

97 *See* Comments of the Staff of the Federal Trade Commission's Bureau of Consumer Protection and Office of Policy Planning, Docket No. 160331306-6306-01 at 4 (June 2016), *available at* https://www.ftc.gov/system/files/documents/advocacy_documents/comment-staff-bureau- consumer-protection-office-policy-planning-national-telecommunications/160603ntiacomment.pdf?utm_source=govdelivery ("FTC IoT Comments") (FTC's comments before the Department of Commerce National Telecommunications & Information Administration Request for Comment titled *In the Matter of The Benefits, Challenges, and Potential Roles for the Government in Fostering the Advancement of the Internet of Things*) (noting there is no "one-size-fits-all approach" with respect to providing consumer choice).

innovative use.[98] Indeed, the Commission's proposed rules would put broadband providers at a competitive disadvantage vis-à-vis edge providers, who are not bound by FCC authority.[99] The ability of providers to deploy advanced telecommunications should not be prematurely limited by intractable privacy regulations.

The Commission instead should adopt a flexible approach to protecting BIAS customers' privacy consistent with a framework proposed by CCA and others,[100] and avoid implementing rules that will provide negligible if any benefit to consumers at the cost of considerable consumer confusion and burdens on smaller providers that limit their ability to invest in network deployment and upgrades.[101] Consistent with its prior advocacy, CCA urges the Commission to adopt the proposed Industry Framework, which addresses key underlying issues identified by the Commission: (1) transparency, (2) respect for context and consumer choice, (3) data security, and (4) data breach notification.[102] This approach strikes an appropriate balance of protecting

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98 The proposed rules also fail to appreciate the many beneficial uses of consumer data enabled by IoT and 5G. *See, e.g.*, C Spire Telehealth, White Paper (2015) (C Spire uses high speed connectivity to enable telehealth throughout Mississippi. C Spire's partnership with the University of Mississippi Medical Center (UMMC) and Intel-GE Care Innovations to provide people with diabetes more consistent and timely access to clinicians through the use of telehealth technology in their homes); FTC IoT Comments at 4 (Analysis of aggregated data gathered by IoT technology can facilitate breakthroughs in healthcare, public infrastructure, and energy efficiency, but "can also help target public service messages and resources to relevant populations, including low-income and disadvantaged communities").

99 *See* Reply Comments of Competitive Carriers Association at 28-30, WC Docket No. 16-106 (filed July 6, 2016) ("CCA Privacy Reply Comments").

100 *See* Letter from Steven K. Berry, President & CEO, CCA, et al., to The Honorable Tom Wheeler, Chairman, FCC and attached Discussion Paper (March 1, 2016) ("Industry Framework").

101 *See* Comments of Competitive Carriers Association at 16, WC Docket No. 16-106 (filed May 27, 2016) ("CCA Privacy Comments"); CCA Privacy Reply Comments at 26.

102 *See* CCA Privacy Comments at 5-6.

consumers while promoting network deployment by mobile BIAS providers.[103] In contrast, the Commission's proposed rules impose significant costs that smaller providers in particular cannot absorb without depriving their planned network investments of limited and necessary resources.[104]

### F. The Commission Must Provide Carriers the Necessary Tools to Deploy Facilities, Including Through Enacting Clear Siting Policies, to Facilitate Deployment of Advanced Telecommunications Capability.

Ubiquitous deployment of advanced telecommunications capability cannot be achieved without necessary networks and facilities.[105] As noted, the *2016 Broadband Progress Report* concludes that, although "progress has been made in promoting competition and removing barriers to infrastructure investment,"[106] there's more work to be done.[107] CCA supports the Commission's and the Administration's efforts to reduce barriers to infrastructure deployment. CCA applauds the Commission's First Amendment to the Collocation Agreement, and the FCC's broader efforts to engage with federal partners to ensure bedrock infrastructure, associated equipment, and small cell facility deployment policies are conducive to next generation network buildout.[108] Nevertheless, CCA encourages policymakers to further reduce barriers to deployment by enacting clear infrastructure siting policies. Specifically, the Commission can facilitate deployment of mobile broadband networks by streamlining siting

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103 *See* CCA Privacy Reply Comments at 2.

104 *See id.* at 26.

105 See CCA Mobile Competition Comments at 30.

106 *2016 Broadband Progress Report* ¶ 139.

107 *Id.* ¶ 119.

108 *See Wireless Telecommunications Bureau Announces Execution of First Amendment to the Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*, Public Notice, WT Docket No. 15-180 (rel. Aug. 8, 2016).

policies for federal lands, including the use of "dig once" policies, shot clocks, and support for legislation that furthers these initiatives. Similarly, the FCC should continue to modernize tower siting policies to extend physical infrastructure. This is particularly important as broadcasters and competitive carriers prepare to clear and deploy on spectrum in the 600 MHz bands, as well as carrier efforts to densify their networks to prepare for 5G. The Commission must continue to ensure all carriers have adequate resources to invest in infrastructure and network deployment, and achieve the laudable goal of advancing mobile broadband to all consumers.

## V. CONCLUSION.

In concluding that mobile broadband availability is necessary for the deployment of advanced telecommunications capability, the Commission recognized the crucial and increasingly important role that mobile broadband plays in the lives of Americans. The current services made possible by mobile broadband—for work, entertainment, education, and healthcare—and the promise of even more innovative possibilities represented by 5G, should be available to all Americans. Yet a significant gap remains between current deployment and the goal that Congress directed the Commission to achieve under Section 706, especially for rural and underserved areas. Accordingly, CCA urges the Commission to find that advanced telecommunications capabilities are not adequately deployed to all Americans. The Commission should then undertake certain reforms - including fixing the broken BDS market, enacting sound USF and spectrum policies, and facilitating competitive arrangements between providers - to ensure that all Americans have access to advanced telecommunications capability in a reasonable and timely fashion.

Respectfully submitted,

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